ANNUAL WATER QUALITY REPORT

Reporting Year 2021

Presented By
City of Mercer Island

PWS ID#: 536405

Continuing Our Commitment

Once again, we are proud to present our annual water quality report covering the period between January 1 and December 31, 2021. In a matter of only a few decades, drinking water has become exponentially safer and more reliable than at any other point in human history. Our exceptional staff continues to work hard every day—at all hours—to deliver the highest-quality drinking water without interruption. Although the challenges ahead are many, we feel that by relentlessly investing in customer outreach and education, new treatment technologies, system upgrades, and training, the payoff will be reliable, high-quality tap water delivered to you and your family.

How Is My Water Treated and Purified?

The City of Mercer Island receives its water primarily from the Cedar River Water supply via Seattle Public Utilities transmission system.

At SPU's Cedar treatment facility, the water is screened to remove debris (e.g., twigs, leaves), disinfected with chlorine to remove microbial contaminants, fluoridated for dental health protection, and adjusted with lime for pH-adjusted corrosion control to minimize lead leaching in older plumbing systems. SPU also uses ozonation for odor and taste improvements and Giardia control, and ultraviolet light (UV) disinfection to disable microbial contaminants such as chlorine-resistant *Cryptosporidium*.

> "When the well is dry, we know the worth of water."
>
> —*Benjamin Franklin*

The Tolt water supply undergoes ozonation, filtration, chlorination, fluoridation, pH, and alkalinity adjustment.

Community Participation

You are invited to participate in our public forum and share your comments about your drinking water. The Utility Board meets at 5 p.m. on the second Tuesday of most months, in the City Council Chambers at City Hall, located at 9611 SE 36th Street, Mercer Island, WA. During the COVID-19 pandemic, meetings are held remotely using a teleconferencing platform provided by Zoom. You can find upcoming meetings and contact information on the City of Mercer Island website, at https://www.mercerisland.gov/bc-utilityboard. Comments are always welcome at publicworks@mercerisland.gov.

Variances and Exemptions

As a consumer you are entitled to know what variances and waivers are in force with your water utility. The City of Mercer Island currently has one waiver with the DOH, and it concerns asbestos-cement (AC) water main piping. The Washington State DOH does not require any water supplier to report on systems with less than 10% total AC piping. Our waiver simply acknowledges that a very small amount of AC pipe exists in our system. The water distribution system on Mercer Island is composed of 96% cast iron, ductile iron, or steel, and the remaining 4% is AC (asbestos-cement) pipe. Asbestos-cement is an old material that is no longer used in construction, and the small amounts of AC piping in our system pose no threat to drinking water quality. Further, Seattle Public Utilities has not detected any naturally occurring asbestos in their watersheds.

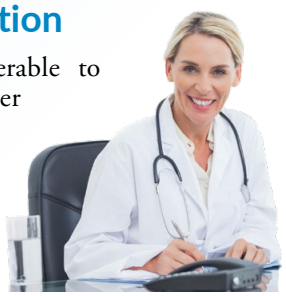
Where Does My Water Come From?

The City of Mercer Island receives its surface water supply from Seattle Public Utilities (SPU). Our primary water source from SPU is the Cedar River Watershed, with the Tolt River's South Fork providing an alternate supply. SPU's uninhabited watersheds are supplied by the melting snowpack in the Cascade Mountains with supplements from our annual rainfall totals.

Each watershed is closed to unauthorized access and all are carefully managed to supply clean, pristine drinking water to more than 1.4 million people in the greater Seattle area. The rainfall and snow melt collected in the Cedar and Tolt rivers meets or surpasses all federal standards for drinking water. Water samples are tested every day for a wide variety of substances.

To learn more about their watersheds, treatment facilities, and their water quality analysis, go to the Seattle Public Utilities website, at http://www.seattle.gov/utilities/services/water/water-quality.

Important Health Information



Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or http://water.epa.gov/drink/hotline.

Questions?

For more information about this report, or for any questions related to your drinking water, please contact the City of Mercer Island Public Works Department at (206) 275-7608. This 2022 report, indicating water testing done in 2021, is also available on the City website, at http://www.mercerisland.gov/2021WaterQualityReport.

Lead in Home Plumbing

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high-quality drinking water, but we cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at (800) 426-4791 or at www.epa.gov/safewater/lead.

Substances That Could Be in Water

In order to ensure that tap water is safe to drink, the U.S. EPA and the Department of Health prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration and the Washington Department of Agriculture regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

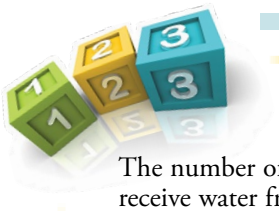
Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.



BY THE NUMBERS

The number of Americans who receive water from a public water system.

300 MILLION

1 MILLION

The number of miles of drinking water distribution mains in the U.S.

The number of gallons of water produced daily by public water systems in the U.S.

34 BILLION

135 BILLION

The amount of money spent annually on maintaining the public water infrastructure in the U.S.

The number of active public water systems in the U.S.

151 THOUSAND

199 THOUSAND

The number of highly trained and licensed water professionals serving in the U.S.

The age in years of the world's oldest water, found in a mine at a depth of nearly two miles.

2 BILLION

Source Water Assessment

Washington's Source Water Assessment Plan (SWAP) is now available from the Department of Health (DOH) website, at https://fortress.wa.gov/doh/swap. This plan is conducted by (DOH) Office of Drinking Water (ODW) and is an assessment of the delineated area around their listed sources through which contaminants, if present, could migrate and reach our source water. By default, the DOH assigns a susceptibility rating of "high" for all surface water sources.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. And, the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The State recommends monitoring for certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES

				Levels in Cedar Water		Levels in Tolt Water			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Arsenic (ppb)	2021	10	0	0.42	0.36–0.52	0.27	0.23–0.31	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2021	2	2	0.00152	0.00149–0.00154	0.00122	0.00117–0.00132	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Bromate (ppb)	2021	10	0	ND	NA	0.7	ND–8	No	By-product of drinking water disinfection
Chlorine (ppm)	2021	[4]	[4]	0.97	0.2–1.53	0.97	0.2–1.53	No	Water additive used to control microbes
Combined Radium[1] (pCi/L)	2021	5	0	0.6	ND–1.15	0.8	ND–1.69	No	Erosion of natural deposits
Fluoride (ppm)	2021	4	4	0.7	0.6–0.8	0.7	0.6–0.8	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs]–Stage 2 (ppb)	2021	60	NA	25	17.6–33.4	25	17.6–33.4	No	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes]–Stage 2 (ppb)	2021	80	NA	32	22–44	32	22–44	No	By-product of drinking water disinfection
Turbidity[2] (NTU)	2021	TT	NA	1.97	0.17–1.97	0.24	0.02–0.24	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2021	TT = 95% of samples meet the limit	NA	NA	NA	100	NA	No	Soil runoff

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG (Maximum Contaminant Level Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

				Levels in Cedar Water		Levels in Tolt Water			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/ TOTAL SITES	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2021	1.3	1.3	0.05	0/50	0.19	0/55	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2021	15	0	2.2	0/50	3.8	0/55	No	Lead services lines, corrosion of household plumbing systems including fittings and fixtures; Erosion of natural deposits

[1] Initial samples showed a slight detection. Follow-up samples showed no detections.

[2] Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. The turbidity MCL that applied to the Cedar supply in 2021 is 5 NTU, and for the Tolt supply it was 0.3 NTU for at least 95% of the samples in a month. All Tolt samples in 2021 were below 0.3 NTU.

Water Conservation Tips

You can play a role in conserving water and saving yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

What's a Cross-Connection?

Cross-connections that contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning systems, fire sprinkler systems, irrigation systems), or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (backpressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand), causing contaminants to be sucked out from the equipment and into the drinking water line (backsiphonage).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools, or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continuously jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed industrial, commercial, and institutional facilities in the service area to make sure that potential cross-connections are identified and eliminated or protected by a backflow preventer. We also inspect and test backflow preventers to make sure that they provide maximum protection.

For more information on backflow prevention, contact the Safe Drinking Water Hotline at (800) 426-4791.